

北海道-陸別 HF レーダーとパラツンカ全天カメラによる MSTID の同時観測

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Coordinated observations of nighttime medium-scale TID with optical and radio measurements

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A nighttime medium-scale traveling ionospheric disturbance (MSTID) was observed simultaneously by the Hokkaido HF radar and an airglow imager at Paratunka (53N, 158E), Russia. The MSTID structure with a period of ~1 hour propagating south-westward was identified in the OI 630-nm airglow images (deviation from 1-hour running averages). Poleward and equatorward Doppler velocities of the field-aligned irregularities (FAIs) obtained by the HF radar clearly coincide, respectively, with the 630-nm airglow enhancement and depletion associated with the MSTID. The observed FAI drift pattern is consistent with ExB drift caused by the MSTID-related electric field.